Air Quality Index Product Description Document

Part I - Mission Connection

a. Product Description - The Air Quality Index (AQI)), also know as Clearing Index and Ventilation Index is both a text and graphical product produced by forecasters in support of the Fire Weather Program. The AQI has been used for many years by health and land management officials to help determine pollution and smoke dispersion on any given day. AQI numbers range from 0 (no dispersion) to 1000+ (excellent dispersion). When used as a Ventilation Index, values range from 0 to 100,000

b. Product Type - Operational Text, Experimental Graphics

c. Purpose - The AQI gives health and land management officials guidance regarding atmospheric dispersion for the next two days. The AQI is used to determine when activities such as controlled burning or pollutant releases are least likely to impact populated areas.

d. Audience - The main audience is health and land management officials, but is available to all in graphic and text form on the Internet.

e. Presentation Format - The web-based format is a graphical representation (created by GFE/IFPS) of the AQI that shows all areas of a state (or region) with color representation of index numbers from0 to 1000.

f. Feedback Method - Most feedback comes from our health and land management officials in direct discussions with WFO personnel. Feedback may also be provided by mail to the Point of Contact:

Chris Gibson
National Weather Service
WFO Salt Lake City
2242 W. North Temple
Salt Lake City, Utah 84116
Phone 801-524-5133

E-mail comments or questions can be sent to chris.gibson@noaa.gov

g. Example/Product URL - Refer to http://www.wrh.noaa.gov/slc/projects/ifp/html/clrindx.php

h. PDD Approved by Vickie Nadolski, WR Regional Director

Part II - Technical Description

a. Format and Science Basis - This product was developed as an aid for determining atmospheric dispersion of smoke and pollutants and has been in use at WFO SLC for at-least 15 years in one form or another. The AQI is based on the maximum extent of the lift of air parcels at or near maximum heating time and average wind speeds between the surface and level where lift due to heating no longer occurs. The AQI utilizes meteorological fields commonly used in Fire Weather Forecasts and is defined as the mixing height multiplied by the transport winds, divided by 100. Using GFE/IFPS, AQI numbers are produced for every 2.5 x2.5 km(or 5 x 5 km) grid and displayed as graphical images.

b. Availability - The AQI products are produced daily (generally in the morning), updated as necessary and are available on the internet as forecasts for the next two days.

c. Additional Information - WFO SLC has been producing the AQI for at least 15 years and continues to use the same method of developing the index numbers as in the past. WFO SLC has been producing graphical AQI for the past few years as an Experimental Product under a Product Description Document.